

Mr. Jeff Scott
United States Environmental Protection Agency
Region IX
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Subject:
Management of PCBs at the Electrical Substation at Hangar 3,
American Airlines, Los Angeles International Airport
Phase 2 Work Plan – Concrete Pad Removal and Confirmation Soil Sampling

ENVIRONMENT

Mr. Scott:

Date:
June 15, 2016

On behalf of American Airlines, Inc. (AA), Arcadis U.S., Inc. (Arcadis) is submitting this Phase 2 Work Plan (work plan) as part of the *Risk-Based Cleanup Approval Request*¹ related to the encapsulation of an approximately 64-square foot (ft²) polychlorinated biphenyl (PCB)-oil impacted concrete slab at Los Angeles International Airport (LAX) (Site) located at 7001 World Way West in Los Angeles, California (Figure 1). This work plan outlines the Phase 2 requirements of the management-in-place activities that will be conducted at the Site. Proposed work included in Phase II includes concrete pad removal, confirmation soil sampling, and associated reporting.

Contact:
Zachary Mason

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714.508.3135

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Our ref:
B0097010.0001

1. PROJECT BACKGROUND

On October 7, 2013, a PCB transformer at the AA operations at Hangar 3 in LAX malfunctioned, resulting in the release of an estimated one quart of PCB oil onto the surrounding concrete pad. As part of the spill response action, the transformer was disconnected from power and drained of its PCB heat transfer fluid; the concrete pad was cleaned; and wipe sampling was conducted to characterize the transformer oil and the concrete slab. The sampling results confirmed that PCBs were present in the drained transformer oil and on the concrete slab at concentrations regulated by the United States Environmental Protection Agency

¹ United States Environmental Protection Agency, Region IX, 2014. EPA Conditional Approval of the Risk-Based Cleanup Approval Request for Management of PCBs at the Electrical Substation at Hangar 3, American Airlines Los Angeles International Airport. December 10.

(USEPA) Toxic Substances Control Act (TSCA). Based on consultation with the USEPA Region IX, AA proceeded to permanently remove the transformer for off-site disposal, as well as scarifying the associated concrete pad in order to remove PCB-impacted concrete from the spill area. The transformer was subsequently removed and scarifying of the pad performed. However, subsequent confirmation sampling indicated residual PCBs in the concrete of the transformer pad. Concrete core samples indicated PCB concentrations above TSCA PCB hazardous waste criteria for PCBs in sample locations CS 04, CS 17, and CS 19 with the highest concentrations recorded at CS 17 (1,810 parts per million) (Figure 2). AA subsequently submitted a Risk Based Conditional Approval Request to the USEPA for a two-phased approach to remediate PCB impacts at the substation. The USEPA approved the proposed work in a December 10, 2014 letter (Attachment A). Phase 1 which consisted of encapsulation of the PCB-impacted concrete surface, marking of impacted areas along with monthly visual and bi-annual wipe or other non-destructive testing to verify the integrity of the encapsulating material was completed in January 2016. The Phase 2 activities, described in Section 2, will include the demolition and disposal of PCB-impacted concrete and verification sampling of underlying soils.

1.1 Summary of Completed Phase 1 PCB Encapsulation

On January 8 and 9, 2015, Arcadis applied two coats of the Carboline – Semstone 140 epoxy to encapsulate approximately 64 ft² of concrete that was exposed to PCB containing oil on October 7, 2013 at the Site. On January 13, 2015, a layer of Carboguard 890 epoxy was applied to the 64 ft² pad. The third layer of black colored epoxy was applied to contrast with the light gray color of epoxy previously applied. The contrasting colors of epoxy layers allowed for visual inspection of the area to determine if the encapsulation was deteriorating. Arcadis then conducted bi-annual wipe sampling of the epoxy on June 19, 2015 and January 12, 2016. Analytical results for both wipe sampling events had no detections of PCBs.

2. PROPOSED PHASE 2 ACTIVITIES

AA is requesting USEPA approval to utilize the USEPA Region IX regional screening levels (RSLs) for PCBs in an industrial land use scenario. The former Hanger 3 area will be developed as an aircraft ramp and terminal area in an active airport. Furthermore, the soil in this area will be covered by new concrete and will not allow for exposure human receptors. The following section describes the proposed Phase 2 concrete removal and soil sampling activities to be conducted at the Site.

2.1 Site Specific Health and Safety Plan

As required by the Occupational Safety and Health Administration Standard “Hazardous Waste Operations and Emergency Response” guidelines (29 Code of Federal Regulations Section 1910.120), Arcadis will prepare a site-specific health and safety plan (HASP) prior to commencement of fieldwork. Field staff and contractors will review the HASP before beginning field operations at the Site.

2.2 Underground Utility

The AA Hanger 3 is currently being demolished. Arcadis understands that all utilities have been terminated and/or removed from service.

2.3 Concrete Pad Removal

An Arcadis subcontractor will use mechanical equipment (e.g. jackhammer) to demolish the 11 foot by 9 foot, by 4 inch thick concrete pad of which the impacted area was approximately 64 ft². All concrete debris will be containerized in Department of Transportation-approved 55-gallon drums or roll-off bins. The waste containers will be removed by an Arcadis' disposal contractor and disposed of at U.S. Ecology in Beatty, Nevada.

2.4 Confirmation Soil Sampling

After the concrete has been removed, soil samples will be collected to evaluate the presence of potential PCB impacts in soil. Four soil borings will be completed in the vicinity of the spill area, at locations where elevated PCBs were detected in concrete, and at other areas of the pad area for general coverage. At each boring location, three soil samples will be collected at depths of 3 inches, 12 inches, and 24 inches below ground surface (Figure 2).

The samples will be collected via hand auger method and retained in laboratory provided glass jars. All samples will be labeled, placed in an ice-chilled cooler, and transported to the laboratory under chain-of-custody protocol. A photoionization detector (PID) will be used in the field for general air monitoring as part of the standard Health and Safety practice. Additionally, as needed soil screening may be conducted. Soil screening procedures will involve measuring approximately 30 grams from a relatively undisturbed soil sample and placing this sample in a sealed container (Ziploc bag), and then the head space within the bag will be tested for total organic vapor and measured in parts per million (ppm).

2.5 Decontamination

Decontamination of non-dedicated or non-disposable field equipment will be conducted using an Alconox® solution and deionized water rinse between each sample location to prevent potential cross-contamination.

2.6 Soil Cuttings

Soil cuttings generated during soil sampling operations will be containerized in Department of Transportation-approved containers assuming there is enough material to be containerized. If waste containers are generated, they will be temporarily stored onsite pending waste characterization and disposal. Waste containers will be removed by Arcadis' disposal contractor and transported to an appropriate disposal facility. Borings will be backfilled with native soil.

3. LABORATORY ANALYSIS

Soil samples will be submitted to a California-certified laboratory under appropriate chain-of-custody protocols and analyzed using laboratory methods approved by the California Environmental Laboratory Accreditation Program. Samples will be analyzed for the presence of PCBs by USEPA SW-846 Method 8082. All soil samples will be submitted for analysis on a standard turnaround time.

4. REPORTING

A report will be prepared summarizing the field work, approximating quantities and types of waste generated, name and address of the disposal facility to which the waste has been shipped, a diagram showing sampling locations, and a summary of laboratory analytical results in a tabulated format. Laboratory results will be compared to USEPA Region IX RSLs for PCBs in an industrial land use scenario. The report will include copies of laboratory analytical report and copies of completed waste manifests.

5. SCHEDULE

These activities are planned to commence once USEPA approves this work plan. AA has notified the USEPA a minimum of 30 days prior to implementing Phase 2 activities as requested. Arcadis will be prepared to mobilize to the field once USEPA approval of the work plan is received. After the field work has been completed and final waste disposal documentation has been received, Arcadis will prepare the report to USEPA Region IX within 45 days.

If you have any questions or comments regarding this work plan, please contact Mr. Zachary Mason at 714.508.3135.

Sincerely,
Arcadis U.S., Inc.



Zachary Mason
Certified Project Manager



Phil Skorge
Professional Geologist



Mr. Scott
June 15, 2016

Copies:

Mr. John Haney, American Airlines, Inc.
Ms. Veronica Torres, American Airlines, Inc.
Mr. Robert Freeman, LAWA

Enclosures:

Figures

- 1 Site Location Map
- 2 Encapsulation Area with Proposed Soil Sample Locations

Attachment

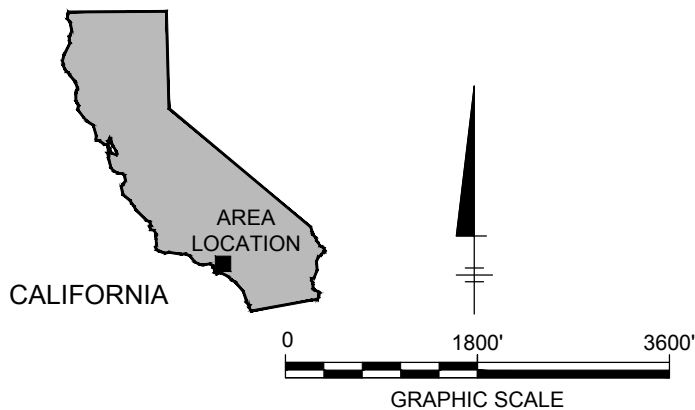
- A USEPA Approval Letter dated December 10, 2014

FIGURES





MAP SOURCE: Google Earth Pro, 33°56'33.66"N, 118°24'55.65"W

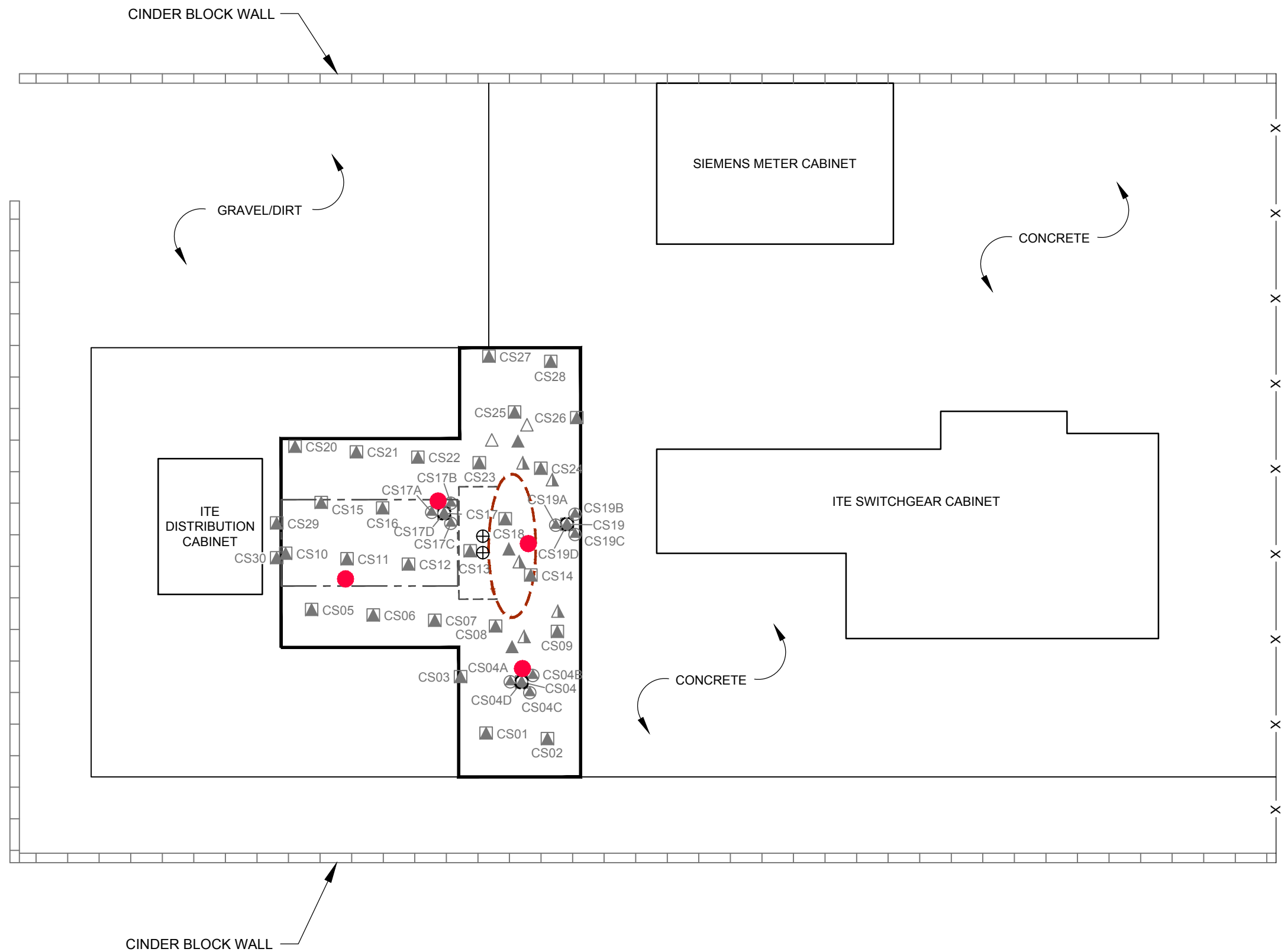


AMERICAN AIRLINES
LOS ANGELES INTERNATIONAL AIRPORT
7001 WORLD WAY WEST, LOS ANGELES, CA






SITE LOCATION MAP












FIGURE
1



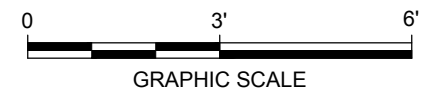
LEGEND:

CS01		CONCRETE CORE SAMPLE COLLECTED ON MARCH 27-28, 2014
CS04A		CONCRETE CORE CONFIRMATION SAMPLE COLLECTED ON JUNE 2, 2014
		WIPE SAMPLE COLLECTED ON OCTOBER 14, 2013
		WIPE SAMPLE COLLECTED ON OCTOBER 21, 2013
		WIPE SAMPLE COLLECTED ON NOVEMBER 20, 2013

	SCARIFICATION AREA
	APPROXIMATE SPILL BOUNDARY
	FORMER TRANSFORMER
	FORMER COMPARTMENT WALL
	INACTIVE CONDUIT
	OVERDRILL BOUNDARY
	APPROXIMATE LIMITS OF CONCRETE PAD
	CHAIN LINK FENCE
	PROPOSED SOIL CONFIRMATION SAMPLE LOCATION

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE. SELECT FEATURES AND EQUIPMENT ARE SHOWN FOR CLARITY.
2. BASE MAP DEVELOPED FROM FIGURE PROVIDED BY AMERICAN AIRLINES IN SEPTEMBER 21, 2014 E-MAIL CORRESPONDENCE.



AMERICAN AIRLINES
LOS ANGELES INTERNATIONAL AIRPORT HANGER 3
7001 WORLD WAY WEST, LOS ANGELES, CA

**ENCAPSULATION AREA
WITH PROPOSED SOIL SAMPLE
LOCATIONS**

ATTACHMENT A

USEPA Approval Letter dated December 10, 2014





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

DEC 10 2014

Mr. Bruce Campbell
Sr. Manager, Environmental Compliance
American Airlines, Inc.
4333 Amon Carter Blvd MD 5285
Fort Worth, Texas 76155

Mr. Robert Freeman
Environmental Manager II
Los Angeles World Airports
7301 World Way West
Los Angeles, California 90045

Re: EPA Conditional Approval of the Risk-Based Cleanup Approval Request for Management of PCBs at the Electrical Substation at Hangar 3, American Airlines Los Angeles International Airport

Dear Mr. Campbell and Mr. Freeman:

Thank you for your submission of the *Risk-Based Cleanup Approval Request*, for the American Airlines, Inc., (AA) electrical substation associated with Hangar 3 at the Los Angeles International Airport (LAX) (Site), dated November 3, 2014 (Application). The Application proposes management-in-place of polychlorinated biphenyl (PCB) contaminated surfaces at the Site. The U.S. Environmental Protection Agency (USEPA) is issuing this risk-based approval (Approval) under the Toxic Substance Control Act (TSCA) pursuant to 40 C.F.R. § 761.61(c).

The USEPA understands that the Los Angeles World Airports (LAWA) owns and operates the LAX and leases Hangar 3 and the associated electrical substation to AA. USEPA is issuing this Approval to both the property owner and the responsible party, LAWA and AA, respectively. This Approval covers PCB-impacted areas within the electrical substation at the Site.

In October 2013, AA reported that a PCB transformer at the Site released mineral oil containing PCBs at a concentration of 460,000 parts per million (ppm). The PCB transformer was subsequently removed, and remediation activities on the remaining concrete pad were conducted. However, verification sampling results indicated that residual PCB contamination remained on the concrete pad. The USEPA understands that the LAX will be undergoing expansion, and as part of the planned development, the LAWA will be demolishing Hangar 3 and associated structures, including the electrical substation. Decommissioning of the Site is estimated to take place in 2016.

Per the Application, AA proposes to carry out the PCB remediation effort in two phases. Phase I involves encapsulation of the PCB-impacted concrete pad with an epoxy sealant where the former PCB transformer was located. The sealant will be inspected and repaired, as necessary. Phase 2 includes fully

characterizing the concrete pad prior to demolition activities for disposal purposes; removing the concrete pad; and collecting verification samples to confirm adequate removal of PCB contamination.

USEPA has reviewed AA's Application, and has prepared this Approval with conditions. AA is subject to the following conditions pursuant to 40 C.F.R. § 761.61(c), and shall incorporate the stipulations of these conditions when implementing the activities proposed in the Application:

1. Encapsulate

- a. **Physical Wear of Encapsulate.** AA's Application indicates that the concrete pad will be inspected on a monthly basis to determine whether or not reapplication of sealant on the concrete pad is warranted. However the Application does not specify the methodology that will be used to determine whether or not the epoxy sealant is wearing away. AA may apply, but is not limited to, the following options:
 - i. **Paint Indicator.** One method that may be used to determine whether or not the epoxy sealant is wearing away is to apply two layers of sealant, each containing a solvent resistant, water repellent paint layer. The paint layers should have contrasting colors. If the paint color of the bottom layer begins to show, this is an indication that the epoxy coating is starting to wear away. If this occurs, the sealant shall be reapplied.
 - ii. **Non-Destructive Testing.** Another option that may be used to test the integrity of the epoxy sealant is use of ultrasonic technology to measure the thickness of the coating. This is a form of non-destructive testing. Records of the coat thickness should be maintained on-site. If the coating becomes too thin, the sealant shall be reapplied.

At least one week prior to encapsulating the concrete pad, AA shall notify USEPA of the method selected for testing the integrity of the sealant over the concrete slab.

- b. **Effectiveness of the Encapsulate.** Analytical results of concrete core samples indicated that the highest total PCBs concentration detected was 1,810 ppm. To ensure that the epoxy coat adequately functions as a barrier, AA shall collect a wipe sample every six months following application of the sealant in the area where the highest PCB concentration was found in the concrete. If the wipe sampling results indicate any breaching of PCBs through the sealant, AA shall reapply the epoxy coating.
- c. **Labeling.** As required in the TSCA PCB regulation, AA shall place an M_L mark in a location that is easily visible to individuals present in the area. The M_L mark shall be replaced when worn or illegible.
- d. **Inspection and Annual Certification.** As part of the monthly inspection, AA shall record any visual observations of cracks; chips; and other damage or condition that might result in exposure or release, or compromise the integrity of the sealant and concrete. If results of the monthly inspection indicate that the integrity of the sealant and/or concrete is compromised AA shall make any necessary repairs within one week. AA shall certify to USEPA on an annual basis that the monthly inspections have been conducted. If any problems and note action taken; any damage that was observed, if any; and a description of how damage was resolved.

2. **PCB Cleanup Level.** The Application indicates that following removal of the concrete pad, the remaining soil will be tested and analyzed for total PCBs using EPA Method 8082. The analytical results will be compared to cleanup levels for low occupancy areas established in 40 C.F.R. § 761.61(a)(4)(i)(B). This Application was submitted to USEPA pursuant to 40 C.F.R. § 761.61(c), and as such, the cleanup goal shall be risk-based. Therefore, the cleanup goal shall either be based on the USEPA R9 regional screening level (RSL) for total PCBs, or AA may develop a site-specific risk-based screening level (RBSL).

There are two sets of PCB RSLs; one for restricted use (industrial), and one for unrestricted use (residential). If AA would like to use a cleanup goal that corresponds with restricted use (industrial RSL), AA shall work with the landowner to incorporate land use controls (LUCs) associated with that portion of the property, subject to USEPA approval. On the other hand, if AA would like to use a cleanup goal that corresponds with unrestricted use, such as the residential RSL or develop a RBSL that USEPA agrees is protective for unrestricted use, AA will not be required to maintain a LUC at the Site.

AA shall evaluate the cleanup goal options described above, discuss with LAWA as necessary, and then provide USEPA with the final decision.

3. **Schedule.** AA shall follow the schedule provided in Section VI of the Application, and any changes to the schedule must be requested in writing to USEPA for approval, at least one week prior to the changes being implemented.

After removal activities and soil verification sampling activities have been completed at the Hangar 3 electrical substation, USEPA will review the analytical data to determine if additional characterization and/or remediation activities are warranted. USEPA will notify AA of any additional approval applications that AA must submit to USEPA pursuant to 40 C.F.R. § 761.61(c).

Lastly, it has been USEPA's experience that hangar buildings at airports generally contain other sources of PCBs such as: paint, caulking, fluorescent light ballasts, dust, galbestos (generally found on the exterior portion of hangar buildings), hydraulic oil released historically from compressors or mechanical equipment. USEPA recommends that AA evaluate other potential sources of PCBs, and that a comprehensive PCB characterization be completed prior to decommissioning activities at Hangar 3.

This Approval does not relieve the Parties and their consultants from complying with other applicable TSCA PCB and Federal regulations, or state and local regulations and permits. Departure from this Approval without prior written permission from USEPA may result in revocation of this Approval. Nothing in this approval bars USEPA from imposing penalties for violations of this Approval or for violations of other applicable TSCA PCB requirements or for activities not covered under this Approval.

This approval only applies to the site that is the subject of this approval. USEPA reserves the right to require additional characterization and/or cleanup of PCBs at the Site if new information shows that PCBs remain at the Site above the USEPA-approved PCB cleanup levels, or if PCBs are found at other areas of the Site or immediately adjacent to the Site.

We look forward to assisting you during implementation of the approved Application as modified by this Approval. If you have any questions concerning this Approval, please contact Cynthia Ruelas at (415) 972-3329. Thank you for your cooperation.

Sincerely,



Jeff Scott, Director
Land Division

Electronic cc:

David Hung, Los Angeles Regional Water Quality Control Board
John Haney, American Airlines